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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,833	03/30/2001	Alyosha C. Molnar	050321-1830	6238
24504	7590	06/23/2004	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP			DO, CHAT C	
100 GALLERIA PARKWAY, NW			ART UNIT	
STE 1750			PAPER NUMBER	
ATLANTA, GA 30339-5948			2124	

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/821,833

Applicant(s)

MOLNAR ET AL.

Examiner

Chat C. Do

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03/30/01; 5/7/01; 5/24/01; 7/30/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 10-16, 18, 22-28, 30, 34-40, 42, 45-47 is/are rejected.
- 7) ☒ Claim(s) 5, 7-9, 17, 19-21, 29, 31-33, 41, 43 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

1. Applicant has not given a post office address anywhere in the application papers as required by 37 CFR 1.33(a) of the second inventor, Rahul Magoon, which was in effect at the time of filing of the oath or declaration. A statement over applicant's signature providing a complete post office address is required.

### ***Claim Objections***

2. Claims 45-47 are objected to because of the following informalities:

Re claim 47, this claim should depend on claim 45 for consistency because it is a duplicated claim of claim 36. In addition, the set of claims 37-47 is method claims of set of claims 25-36, but claims 45-46 are not in order as set.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-47 are rejected under 35 U.S.C. 103(a) as being obvious over Keating (U.S. 5,867,068) in view of Wong (U.S. 5,425,074).

Re claim 1, Keating discloses in Figures 11-12 a signal processing system configured to produce a divider output signal (1130) having a period substantially equal to a period of a reference input signal multiplied (1110) by a frequency division ratio (e.g.  $\frac{1}{2}$ ) comprising: a plurality of storage elements (1140 and 1150), where each of the plurality of storage elements is configured to receive a first input (e.g. 1180), and the reference input signal (1110), and is configured to provide a storage element output (D), where the divider output signal is obtained from at least one storage element output (1130); where a storage element output from each of the plurality of storage elements is used to provide at least one input to another one of the plurality of storage elements (cascade to next as 1140 to 1150); and where an output from each of the plurality of storage elements responsive to an output from at least another one of the plurality of storage elements (1130). Keating fails to disclose a second input signal into each of the storage element. However, Wong discloses in Figure 5 that each of the storage element has a second input signal (e.g.  $49 \times R$  as reset). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add a second input signal as reset as cited in Wong's Figure 5 into Keating's invention because it would enable to stabilize the system by resetting machine state.

Re claim 2, Keating further discloses in Figures 11-12 the frequency division ratio (e.g.  $R = 2$ ) is equal to a total number of storage elements (1140 and 1150 as two elements) included in the plurality of storage elements (see Figure 12 for 1110 and 1130).

Re claim 3, Keating further discloses in Figures 11-12 respect to each of the plurality of storage elements, a state of the first input is stored in the storage element at a first point in time (e.g. feedback from 1150 to 1140).

Re claim 4, Keating further discloses in Figures 11-12 a state of the storage element output at a second point in time subsequent to the first point in time is equal to the state of the first input stored in the storage element at the first point in time (e.g. feedback directly from 2<sup>nd</sup> element to the input of the 1<sup>st</sup> element).

Re claim 6, Keating further discloses in Figure 6 the divider output signal is obtained by combining two storage element outputs (e.g. 622 and col. 3 lines 45-50).

Re claim 10, Keating further discloses in Figures 11-12 the reference input signal is a local oscillator signal (1110 and col. 1 lines 5-15).

Re claim 11, Keating further discloses in Figures 11-12 the signal processing system is a frequency divider (e.g. col. 3 line 45).

Re claim 12, Keating in view of Wong do not disclose the signal processing system is a mobile telephone. However, the examiner takes an office notice that the system of frequency synthesizer is well known in the art in a mobile telephone. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add into a mobile telephone as known in the art into the Keating in view of Wong's invention because it would enable the system to operate at a desired frequency or carrier.

Re claim 13, it is a method claim of claim 1. Thus, claim 13 is also rejected under the same rationale as cited in the rejected claim 1.

Re claim 14, it is a method claim of claim 2. Thus, claim 14 is also rejected under the same rationale as cited in the rejected claim 2.

Re claim 15, it is a method claim of claim 3. Thus, claim 15 is also rejected under the same rationale as cited in the rejected claim 3.

Re claim 16, it is a method claim of claim 4. Thus, claim 16 is also rejected under the same rationale as cited in the rejected claim 4.

Re claim 18, it is a method claim of claim 6. Thus, claim 18 is also rejected under the same rationale as cited in the rejected claim 6.

Re claim 22, it is a method claim of claim 10. Thus, claim 22 is also rejected under the same rationale as cited in the rejected claim 10.

Re claim 23, it is a method claim of claim 11. Thus, claim 23 is also rejected under the same rationale as cited in the rejected claim 11.

Re claim 24, it is a method claim of claim 12. Thus, claim 24 is also rejected under the same rationale as cited in the rejected claim 12.

Re claim 25, it is a system claim as claim 1 wherein the frequency division ratio is 3 (col. 3 lines 8-11). Thus, claim 25 is also rejected under the same rationale as cited in the rejected claim 1.

Re claim 26, it is a system claim as claim 2 wherein the frequency division ratio is 3. Thus, claim 26 is also rejected under the same rationale as cited in the rejected claim 2.

Re claim 27, it is a system claim as claim 3 wherein the frequency division ratio is

3. Thus, claim 27 is also rejected under the same rationale as cited in the rejected claim

3.

Re claim 28, it is a system claim as claim 4 wherein the frequency division ratio is

3. Thus, claim 28 is also rejected under the same rationale as cited in the rejected claim

4.

Re claim 30, it is a system claim as claim 6 wherein the frequency division ratio is

3. Thus, claim 30 is also rejected under the same rationale as cited in the rejected claim

6.

Re claim 34, it is a system claim as claim 10 wherein the frequency division ratio

is 3. Thus, claim 34 is also rejected under the same rationale as cited in the rejected claim 10.

Re claim 35, it is a system claim as claim 11 wherein the frequency division ratio

is 3. Thus, claim 35 is also rejected under the same rationale as cited in the rejected claim 11.

Re claim 36, it is a system claim as claim 12 wherein the frequency division ratio

is 3. Thus, claim 36 is also rejected under the same rationale as cited in the rejected claim 12.

Re claim 37, it is a method claim of claim 25. Thus, claim 37 is also rejected

under the same rationale as cited in the rejected claim 25.

Re claim 38, it is a method claim of claim 26. Thus, claim 38 is also rejected

under the same rationale as cited in the rejected claim 26.

Re claim 39, it is a method claim of claim 27. Thus, claim 39 is also rejected under the same rationale as cited in the rejected claim 27.

Re claim 40, it is a method claim of claim 28. Thus, claim 40 is also rejected under the same rationale as cited in the rejected claim 28.

Re claim 42, it is a method claim of claim 30. Thus, claim 42 is also rejected under the same rationale as cited in the rejected claim 30.

Re claim 45, it is a method claim of claim 33. Thus, claim 45 is also rejected under the same rationale as cited in the rejected claim 33.

Re claim 46, it is a method claim of claim 34. Thus, claim 46 is also rejected under the same rationale as cited in the rejected claim 34.

Re claim 47, it is a method claim of claim 36. Thus, claim 47 is also rejected under the same rationale as cited in the rejected claim 36.

#### ***Allowable Subject Matter***

5. Claims 5, 7-9, 17, 19-21, 29, 31-33, 41, and 43-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



- a. U.S. Patent No. 5,144,254 to Wilke discloses a dual synthesizer including programmable counters which are controlled by means of calculated input controls.
- b. U.S. Patent No. 6,163,181 to Nishiyama discloses a frequency divider circuit and digital PLL circuit.
- c. U.S. Patent No. 5,614,869 to Bland discloses a high speed divider for phase-locked loops.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2124

June 8, 2004

*Chaki Kakali*  
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